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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/910,392	07/20/2001	Sanjay L. Patil	54933US008	1684

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EXAMINER
GOLDBERG, JEANINE ANNE

ART UNIT	PAPER NUMBER
1634	9

DATE MAILED: 09/11/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/910,392	PATIL ET AL.	
	Examiner	Art Unit	
	Jeanine A Goldberg	1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *three* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 July 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *32-40 and 64-70* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *32-40 and 64-70* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. This action is in response to the papers filed July 20, 2001. Currently, claims 32-40, 64-70 are pending.

Drawings

2. The drawings are approved by the examiner.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in-
> (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
> (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

3. Claims 32-40, 64-70 are rejected under 35 U.S.C. 102(e) as being anticipated by Halverson et al (US Pat 6,376,619, filed April 1999).

It is noted that the instant specification states that "ink be in the form of a curable ink, pigments, dyes, synthetic resins, metallic particles, and the like (page 17, lines 14-23). Therefore, it is clear that "ink" as defined by the instant specification encompasses metallic particles.

Halverson et al. (herein referred to as Halverson) teaches high density, miniaturized arrays which include high surface areas. Halverson teaches that the arrays generally have oriented films which are generally relaxed (col. 5, lines 65-68). As seen in Figure 1, the array contains a coating comprising linking agents affixed to the substrate. The coating comprising linking agents are coated onto the major surface of the substrate and the coating has a projected surface area and a topographical surface area (col. 6, lines 60-68). Figure 1a illustrates the array substrate in relaxed position whereas Figure 1b illustrates the array subsequent to relaxation. The relaxation creates undulations which increases the surface area (col. 5, lines 12-20). Halverson teaches using biaxially oriented films because they exhibit shrinkage in two orthogonal in-plane directions (col. 6, lines 15-18). The films may be comprised of high density polyethylene, low density polyethylene, linear low density polyethylene, for example (col. 6, lines 25-45)(limitations of Claim 38, 39). Halverson teaches using an azlactone moieties because they are moieties suitable for reactions with numerous reactants and are generally hydrolytically stable and therefore have a relatively long shelf life (col. 8, lines 38-42)(limitations of Claim 40). Halverson teaches that the substrate, upon relaxation becomes greater than the projected surface area. The topographical surface area of the coating is at least two times greater than the projected surface area of the coating or five times greater or more preferably fifteen times greater (col. 7, lines 5-16)(limitations of Claim 35-37). Halverson teaches that the adhesion of the coating to the substrate may be improved by colloidal dispersion of inorganic metal oxides in combination with ambifunctional silanes (col. 8, lines 62-68)(limitations of Claim 32).

Polyethylene shrink film is exemplified as the relaxed oriented film (col. 13, lines 28-35)(limitations of Claim 38). Halverson teaches the reactants are affixed to the substrate to create binding sites (limitations of Claims 64, 67). Reactants include amino acids, nucleic acids, oligonucleotides, cDNAs, carbohydrates and proteins (col. 9, lines 40-45)(limitations of Claims 68-70). The area shrinkage reduction is a measure of the area shrinkage of the film from its oriented, pre-shrunked dimensions to its dimensions after energy has been applied to shrink the film (col. 10, lines 15-18). The substrate is reduced by the application of energy, such as heat (col. 12, lines 5-6). The array is capable of having binding sites with high densities (col. 12, lines 8-10). With respect to mask layers having an optical density of about 1.0 or greater for light of a selected wavelength, Havlerson teaches using film which was immersed in chromic acid and polyethylenimine (PEI) treated (example 2 and 11). The instant specification admits that the relaxed optial density of these treated films are greater than 1.0 (see Table 1, page 28 of the instant specification). Therefore, the films of Halverson inherently have the optical density of greater than 1.0 (limitations of Claims 33-34, 65-66).

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double

patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 65-66 objected to under 37 CFR 1.75 as being a substantial duplicate of claims 33-34. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k). Aside from a comma and a plural form of wavelengths, Claim 65 and 33 are identical. Moreover, Claims 66 and 34 are the same scope.

5. Claims 32-40, 64-70 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-16 of U.S. Patent No. 6,376,619.

An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim is not patentably distinct from the reference claim(s) because the examined claim is either anticipated by or would have been obvious over, the reference claim(s). See e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985).

Although the conflicting claims are not identical, they are not patentable distinct from each other because Claim 32 of the instant application is generic to all that is recited in Claim 10 of U.S. Patent No. 6,376,619. That is, Claim 10 of '619 falls entirely

within the scope of Claim 32, or in other words, Claim 32 is anticipated by Claim 10 of '613. Here, claim 10 of U.S. Patent No. 6,376,619 recites an array comprising a polymeric substrate, a coating, a reactant affixed to liking agents on the coating wherein the coating has a topographical surface area greater than the projected surface area. It is noted that the instant specification states that "ink be in the form of a curable ink, pigments, dyes, synthetic resins, metallic particles, and the like (page 17, lines 14-23). Therefore, it is clear that "ink" as defined by the instant specification encompasses metallic particles.

6. Claims 32-40, 64-70 are is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-3 of U.S. Patent No. 6,395,483.

An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim is not patentably distinct from the reference claim(s) because the examined claim is either anticipated by or would have been obvious over, the reference claim(s). See e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985).

The claims from the parent application and the instant application have been amended such that the line of demarcation between the independent and distinct inventions identified by the examiner in the requirement for restriction has not been maintained. Specifically, in an after final amendment and the preliminary amendment,

applicant's have added the limitation of "wherein the polymeric substrate is a relaxed oriented film or a relaxed elastomeric substrate."

Here, Claims 1-3 of U.S. Patent No. 6,395,483 recites an array comprising a polymeric substrate having a surface where in the polymeric substrate is a relaxed oriented film or a relaxed elastomeric substrate; a undulated mask layer; linking agents and reactants wherein the reactants are amino acids, nucleic acids, carbohydrates, proteins.

The method of Claims 1-3 differs from Claims 32-40, 64-70 herein in that it fails to disclose a metal on the layer. However, the portion of U.S. Patent No. 6,395,483 that supports a polymeric substrate which is a relaxed film with a metal on the layer is "a layer includes at least one metal or metallic compound and further wherein the layer has a projected surface area and a topographical surface area that are equivalent" (col. 2, lines 63-67). Specifically, teaches shrink films with coatings of tin, chromium, or titanium. It is noted that the instant specification states that "ink be in the form of a curable ink, pigments, dyes, synthetic resins, metallic particles, and the like (page 17, lines 14-23). Therefore, it is clear that "ink" as defined by the instant specification encompasses metallic particles. Therefore, it would have been obvious to modify the array of Claims 1-3 of U.S. Patent No. 6,395,483 such that the relaxed oriented film comprises a metal thereon as exemplified in Table 1. One having ordinary skill in the art would have been motivated to make such a modification to optimize the linkages between the mask layer and a linking agent to provide particularly robust systems (col. 13, lines 1-4) as per the supporting portions of U.S. Patent No. 6,395,483.

Conclusion

7. No claims allowable over the art.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A) Anderson et al. (US2002/0015952 A1, February 2002)- teaches the use of heat shrink plastics to make a macro array a micro array by shrinking ((para 0112), page 9).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Jeanine Goldberg whose telephone number is (703) 306-5817. The examiner can normally be reached Monday-Friday from 8:00 a.m. to 5:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jones, can be reached on (703) 308-1152. The fax number for this Group is (703) 305- 3014.

Any inquiry of formal matters can be directed to the patent analyst, Pauline Farrier, whose telephone number is (703) 305-3550.

Any inquiry of a general nature should be directed to the Group receptionist whose telephone number is (703) 308-0196.

J. Goldberg

Jeanine Goldberg
September 4, 2002

W. Gary Jones
Supervisory Patent Examiner
Technology Center 1600